

Jörg-Ulrich Mohnen, M.Sc., MBA

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OBJECTIVE

To provide exemplary technical geospatial and programming support at an image processing, GIS, and geospatial facility.

STRENGTHS

- Signal and Image Processing
- GIS & Remote Sensing Expertise
- Programmer and Algorithms
- Amazon CS2 and Scalr Experience
- VMware scaling and Netapp Tech
- Mapping & Photogrammetry
- Strategic Program Development
- Databases and Information Systems
- Mel, Python, Php, & Perl Scripting
- Extensive JBoss, Apache, Tomcat
- Geospatial Ace
- Military & Defense Contracting
- Heavy IT & Systems Knowledge
- Extensive Nagios, Xymon, Cacti
- Cloud Network & Storage Exp

BIOS

Jorg Mohnen received a Bachelor in Science from Northeastern University in Boston in 1986 and an MBA from Northeastern University's School of Business Administration in 1989 majoring in environmental reconnaissance. With the withdrawal of the U.S. military from central Europe, Mr. Mohnen worked as a CO_OP employee through Northeastern University at Arthur Anderson and Zueblin AG on the Environmental Task Force team. Mr. Mohnen then moved to Germany to complete his master's degree in geophysics (majoring in geophysics/seismology) at the University of Stuttgart with emphasis on Volcano-Seismology. During his studies, he conducted field work on volcanic islands in the Aeolian Sea off of Sicily (Stromboli, Vulcano & Mount Etna), Italy, and developed his PhD dissertation on volcano seismology with a stipend from the Kline Geology & Geophysics department of Yale University. Much of his work involved intense use of networked computers (Linux/UNIX/Sun Solaris), database and signal processing software development, and programming in c/c++, Tcl/Tk, and perl. At Yale University, Mr. Mohnen also began applying his research in volcano-seismology towards the geophysical field of remote sensing, signal data processing, and GIS. Upon the birth of his first child, he had to terminate his PHD program. After his work at Yale University, he settled back to Southern Germany where he consulted for Earth Resource Mapping (Australia), ESRI (Redlands, CA), and worked through the Jet Propulsion Laboratory (JPL), Pasadena CA, on sensor validation (ASTER on the Terra Platform) using the FTIR-102 ground-truthing field spectrometer under contract with the Atmospheric Sciences Research Center (ASRC), State University at Albany and the University of Berlin. He gained considerable experience in the use of scripted tools, algorithms, & plugins and created an international database of spectral libraries and made these available in classification studies. He then combined his experience in business administration, the sciences, and computer software visualization to found Terratracer, a recognized company specializing in high-end 3D geospatial visualizations. The fusion of high-end computer graphics software (Maya, 3D Studio Max, Softimage XSI, and Lightwave) with highest quality 3rd party render products such as Renderman and Mentalray, with the same cutting-edge satellite imaging software used in his research ultimately led to an unlikely collaboration with film makers and television producers. Jorg Mohnen soon became an important geospatial data content provider for sports entertainment broadcasts between 2000-2010, most notably the Tour de France stage visualizations, Olympic Terrain Graphics, several Alpine Ski UCI World Cup terrain graphics, Mount Everest Global Extremes 3D geospatial visualizations, and other internationally televised events in need of geographic and 3D terrain animation graphics. Mr. Mohnen has since relocated to Los Angeles where he established his successful middleware and consulting firm WavGen Incorporated, further advancing his efforts to develop the most sophisticated yet easy to use data compression software for VFX (visual effects) and 3D geospatial animations. His continued interaction and collaboration with his clients in film and TV on such high-profile venues as "Global Extremes - Four Runners of Adventure: Mount Everest" for the Outdoor Life Network, the IMAX film Kalahari - "Wild Safari 3D" for nWave Pictures in Belgium, and the IMAX film "Wired to Win", demonstrates the success of his proactive and entrepreneurial approach in the entertainment visual effects industry. His copyright protected and trademarked software termed the WavGen Pro (Formerly the Terrashader) was the first 3D wavelet compression technology used in Gaming and Entertainment and is now licensed through WavGen Incorporated. Currently, his software is being used in remote sensing applications at military and defense facilities such as Raytheon, SAIC, Northrop-Grumman, Lockheed-Martin, and Boeing. It is being used in Oil & Gas visualizations at Exxon, Mobile, and BP for example. It is also deployed in a variety of urban planning, engineering, and architectural firms such as URS Corp and Halff Associates. His software is well established in filmed entertainment, 3D Gaming, and numerous TV broadcast productions. With this software automatically licensed via WavGen, Jorg Mohnen then moved into a consultancy role as technical project management with SONY Playstation in San Diego California. There he advanced the technical workflow for SONY Playstation Games and led the divisions rendering pipelines to help produce several high profile titled games such as KillZone, LAIR, ATV, SOCOM, MLB, WarHawk, and NBA. Since then he has been a professional GIS and hands on geospatial consultant working/invoicing through his company WavGen Inc in Los Angeles, California on BIM, CAD, GIS, and 2D/3D projects.

Liang-O'Rourke, Jakarta Indonesia

- Using TerraSAR/TanDEM-X Radar and high resolution imaging satellite, mapped 15,000 sqkm of Indonesian Forest
- Employed unique ground penetrating RADAR to form a DSM and DTM product series with extreme accuracy

AURECON Engineering, Australia and Indonesia

- Three RADAR mapping projects in Indonesia using the TerraSAR/TanDEM-X high resolution imaging satellite
- Employed unique ground penetrating RADAR to form a DSM and DTM over 8,000 sqkm of terrain over Indonesia
- Projects resulted in 15 TB of raw data which needed special compression and data handling for delivery

GradientFX, Marina Del Rey CA

- Built the tape back up and archiving solution around BruServer on both NAS systems
- Assessed and helped rebuild the 30TB NAS storage and 25TB mirroring (rsnapshot)

Area52/ Rock Paper Scissors, Santa Monica CA

- Work Flow Optimization in 3D Rendering using 3D Studio Max and Vray (scripting, IT, programming)
- Ensured daily 2D and 3D visual effects and post production pipelines and High End Discreet Editing (Linux)

FloqFX, Culver City CA

- Rebuilt and updated an 80 core renderfarm on Linux Centos 5.5
- Built RAID5 Storage Systems and installed RUSH renderqueue pipeline

Troika TV, West Hollywood CA

- Developed automated RUSH Maya/Mentalray Pipeline and Scripting to After Effects
- Built RAID5 Storage Systems and programmed scripts and built / finetuned Renderfarm

GeoEye, Dulles VA

- Developed reseller relationship with Satellite Data and WavGen Incorporated
- Developed several successful business opportunities resulting in royalties to WavGen Inc,

NavTeq, Chicago IL

- Developed automated point cloud to polygon conversion software (w/planar mapping)
- Organized meetings with AutoDesk and technical contracting companies to define work flows

Halff Associates TX

- Designed 3D Studio Max work flow around 4 large urban planning projects
- Architectural visualizations and highway planning visualizations for government

Terra Media Services, Stuttgart, Germany

- Tour de France Productions and 2D and 3D Rendering Pipeline Design
- Ski Alpine World Cup productions and 2D and 3D Rendering and Pipeline Design
- 2010 Olympic 3D Terrain Animations and Data processing (Whistler/Vancouver BC)

Eco & Associates, Los Angeles CA

- Processed ArcGIS 9.x and ArcMap data into UNM Mapserver Technologies
- Implemented GIS and Remote Sensing Software and hardware Infrastructure

BBC, Wales & London

- Processed and Delivered Geospatial WavGen software and a World Landsat Mosaic
- Implemented GIS and Remote Sensing Software and hardware Infrastructure

Paranoid FX, Culver City, CA

- Called in to trouble shoot Flint/Inferno editing bay (GEN10, AJA, HD Deck, etc)
- Re-cabled and setup machine room for several project deliverables

LCX Systems, Washington DC

- Called in to trouble shoot Flint/Inferno editing bay (GEN10, AJA, HD Deck, etc)
- Re-cabled and setup machine room for several project deliverables

EDUCATION

Yale University, New Haven, CT 1995 - 1997

- PhD (still pending) in Volcano Seismology, Geology and Geophysics
- Thesis on Spatial and Amplitude Distribution of Volcanic Tremor and Effects of Stratigraphical Filtering

Stuttgart University, Stuttgart, Germany 1992 - 1994

- M.S. Geology & Geophysics
- Thesis on Spatial & Temporal Distribution of Volcanic Tremor on the Island of Stromboli, Italy

Northeastern University, Boston, MA 1987 - 1989

- MBA in Environmental Business Administration & Accounting
- Internationsl CO-OP program to Arthur Andersen (see work description below)

Northeastern University, Boston, MA 1982 - 1986

- Bachelor in Geology & Geophysics; Majored in Math & Sciences
- Internationsl CO-OP program to ED Zueblin AG (see work description below)

TECHNICAL SYSTEMS STRENGTHS

- **Remote Sensing & GIS Software:** AutoCAD, REVIT, Autodesk MAP 3D, Earth Resource Mapping (expert-ERMAPPER), GRASS, ESRI's suite (ArcView, ArcIMS, ArcInfo, etc...), ENVI Hyper-spectral (IDL), PCI Easy Pace, TNT MIPS, ERDAS IMAGINE, Falcon View, Manifold, Lizard Tech, Matrix, Socket Set, Remote View, Intergraph, , UDig, GE Smallworld, Image Web server Raster ECW, ESRI's Image Map Server Product line, MAP Info product line, Datascope (now Antelope), VICAR (JPL), HDF-VIEWER (JPL), Autodesk Mapping Software Products
- **Operating Systems:** UNIX (AIX, HP, and especially SUN Solaris thru 8-10 and HP UNIX6000/9000), Mac OSX 10.x.x (from Leopard to all versions back to 2005), LINUX (Fedora, Debian, CentOS, Ubuntu, and SuSe10.x), Windows XP/Vista, Windows 2000 Professional and Advanced Server and Web Server Installation-Configuration via Xserver 4.31, and networking under all Windows and especially UNIX environments (IRIX, Solaris, HP, IBM, Suse)
- **Programming:** Perl/Ruby, Tcl/Tk, MATLAB, C#.NET, C/C++ (Borland, Delphi and MV Studio), Google Earth APS, Javascript & JDE & applets, F77, F90, IDL (Interactive Data Language), Unix Bash and C Shell, Script and Batch, Internet Front End (VRML, XML, HTML, VBscript)
- **3D Modeling & Rendering Software:** 3DS Max, Lightwave, Maya, Mental Ray, Nuke, Shake, FinalRender, Brazil, Vray, Mental Ray, Autodesk VIZ, RealVIZ Fluid, Zbrush, Mudbox. Also familiar with a slew of renderque software to the aforementioned packages (i.e. SUN GRID ENGINE, Rush, Midge, StreamerNET, Temerity Pipeline, Cubed, Spider, MentalQUE, etc...). Very familiar with After Effects, FinalCut, LiveType, Bori, Graffiti, AppleMotion, Vegas, Avid ExpressPro, Avid Composer, Avid Nitros/Meridian, MacroMediaMX (Dreamweaver, FlashMX, etc...), and the full Adobe Software Suite (Illustrator, PhotoShop CS, etc...). All adobe products (i.e. PhotoShop, Illustrator, etc...) and all macromedia products (FlashMX, Dreamweaver, HomeSite)
- **Desktop Software:** Macromedia & SWISH MacroMediaMX, and the full Adobe Software Suite (Illustrator, PhotoShop, etc...) and Macromedia front-end products (FlashMX, Dreamweaver, HomeSite), Adobe Photoshop CS2, Adobe Go Live and Creative Suite Software, Microsoft Office, Access, Excel (PivotTables, Graphs, Charts), Power Point, Publisher, Front Page, Visio, Outlook Express, Net Meeting, Microsoft Remote Desktop Connection
- **Business Software:** SAP R/2 & R/3 (FI & CO), Crystal Reports, Peachtree, Microsoft Office Suite, ATX Tax Preparation Software, Arthur Andersen FAST I-II-III Training in GAAP Accounting Standards, QuickBooks, MS Office, Hyperion
- **Code Repositories:** Administration of Perforce, CVS, Subversion, Sugar CRM, Alienware, and GDI coupled to server architecture like Apache, Tomcat, or Microsoft
- **Databases:** SQL Server 2005, MySQL, Postgress, msSQL, DB2, Oracle, Oracle Triggers and Stored Procedures, PL/SQL, Shell/Perl scripts as they apply, FileMaker
- **Routing:** Cisco/SUN Connectivity & Hardware Routers, Switches, Wireless, Ethernet, Fast-Ethernet, Gigabit Ethernet, Cable/DSL Modem setup, Analog Dialup configuration

www.EarthOnDrive.com, Los Angeles, CA

ACTIVE

Geospatial Technology & Programming

- Successfully spearheaded upstart company to license and sell remotely sensed data world wide
- Setup geospatial gateway and shopping cart solution based on OpenCart and LAMP infrastructure
- Use of ERMapper, Autodesk VIZ, Autodesk AutoCAD, Autodesk MAP 3D, REVIT, MAP 3D, ESRI, etc...
- Owner and licensee of all Landsat ETM+ and PAN and LT7 data sets - best of earth could free - 2011
- Licensee of all 1:24K, 1:100K, 1:250K USGS TOPO Digital Raster Graphics maps for CON-US
- Licensee of all ASTER, NED, SRTM XSAR, and other high resolution world wide USGS data products
- Custom Mapping and cartography products and licensing of world wide remotely sensed data
- Built 2x 30TB Storage Volumes on HP 9000 reconditioned machines and SATA III RAID6 controllers
- Setup a work flow to move Terrabytes of geodata from tape archive to storage to end user hard drive
- Unique business model that sells Terrabytes of data on a set of hard drives with a less than 2 day turn-around

WavGen, Inc., Los Angeles, CA

ACTIVE

Geospatial Technology & Programming

- Directed WavGen Software development Team for GIS and remote sensing pipelines and programming
- Developed atmospheric correction routines and models using MATLAB and then PERL for Remote Sensing
- Use of ERMapper, Autodesk VIZ, Autodesk AutoCAD, Autodesk MAP 3D, REVIT, MAP 3D, ESRI, etc...
- Extensive use of CG software (Lightwave, Maya, 3DS, XSI, Mental Ray, Brazil, FinalRender)
- Successfully spearheaded upstart company to combine remotely sensed data and high end rendering
- Developed environments with 3D computer graphics and Remote Sensing software for film and TV
- ArcGIS /Spatial Analyst creating DTMs, Contours, Statistics and GEOdatabases for pipeline monitoring in Nigeria
- Microstation (Geographics) & AutoCAD for producing hydrographic survey charts for oil & gas site surveys
- Digital transfers & Georeferencing PDFs, maintained ArcGIS database using ArcMap, ArcCatalog, and ArcIMS
- Generated & QA/QC'd shaded relief & mosaic, shallow soils, track, seabed feature, and seismic anomaly charts
- Exported vector data and images into DWG and SHAPE files using ERDAS, ERMapper, and ESRI suite workflow
- Geological deep and shallow profiles, data processing, for onshore and offshore operations with varying map scales
- Development of GIS software in ESRI, then Mapbasic/Mapinfo and database design (Oracle9.x and msSQL/mySQL)
- Developed mapping and ground truthing routines using a Trimble GPS system and ArcPad
- Consistently Deployed ArcGIS 9.2 (ArcMap, ArcInfo, ArcView, ArcCatalog), Global Mapper, ER Mapper, ERDAS Imagine, and AutoCAD workflows in a variety of project environments
- Developed estimates and costs and temporal construction of BIM (Building Infrastructure Maintenance) plans
- Coordinated BIM model information and integration with CAD and GIS and geospatial information into DBs
- Extensive experience with Spatial Analyst in ArcMap and use of ArcMap Model Builder for raster modeling
- Importing datasets into ER Mapper, ERDAS Imagine, ESRI ArcMap & ArcView, Global Mapper (custom algorithms)
- Raster and vector collection and conversion, quantitative analysis, computer cartography, and geo-data visualization
- Feature digitization in various GIS applications with Strong understanding of map projections and datums
- Integrated DEM, satellite, and aerial data into workflows using a variety of software and self written plugins & tools
- Georeferencing images using GIS and remote sensing software (ER Mapper, ESRI ArcMap, Global Mapper, et cetera)
- Use of Inverse Modeling and its applications in GIS modeling and integrating different sources of data into DBs
- Programmed & deployed tools & plugins analyzing natural features on remotely sensed images & aerial photos
- Image enhancements like brovery transforms, IHS, color corrections, self written algorithms, plugins, and tools
- Performed extensive discriminant, unsupervised, and supervised classifications within an international framework
- Reformatting vendor geodata (Jeppeson, TeleAtlas, NavTech, VFR Sectionals, IFR Enroute, HELI Charts, et cetera)
- Documentation and specifications of Engineering Design Standards, Guidelines, and Engineering GIS procedures
- Responsible for the creation of internet mapping services for the European Earthquake Project using ArcIMS
- Developed an ArcSDE database for the Earthquake Hazards Team by adding datasets to the database
- Creating ArcMap projects to be served onto the internet using ArcMap Image Server and also creating AXL (ArcXml)
- Creating 3D models using ArcScene for a presentation and enhancing metadata with ArcCatalog
- Custom Hyper-Spectral - Spectral Analysis with ENVI and ER Mapper, and algorithm plugin & tool development
- Designed, developed, and supported databases in standard RDBMS technology, including Oracle & SQL Server
- Managed and supervised the collection, analysis, interpretation, and processing of geospatial information
- Vectorized scanned maps, translated vector data to obtain its geographic location, and gridded and surfaces
- Responsible for geophysical methods, processing regional data, developing and programming numerical algorithms
- 3D-model of geophysical environment taking into account observed gravitational, magnetic and thermal fields.
- Extensive expertise in statistical R-language and factor analysis, maximum likelihood, wavelet, & cluster analysis
- Performed 3D modelling in the effects of topographic changes to geomagnetic field on stromboli volcano

- Developed and programmed numerical algorithms and software for geomagnetic field modelling
- Validation of databases using ArcMap, DRG scans and rectified TOPOs, DOQQ images, Google Earth APIs
- Implemented environmental studies using remote sensing and GIS technology (thermal and hyperspectral)
- Image acquisition, processing, and data extraction using the ERDAS Imagine and ArcGIS software packages
- Georeferenced Landsat, ASTER, QuickBird, and MODIS imagery & combined GIS layers (USFS, TIGER, hydrology)
- Created final deliverables for projects, including technical papers, posters, maps, and presentations
- Engineered online automated IT strategy and implemented its architecture for online sales of software
- Programmed online forum, affiliate program (B2B and B2C), and online run-time licensing (Perl on Apache)
- Programmed in .NET/C#, Microsoft Visual Studio 2005, and used subversion for source repositories
- Online content developed on a SOLARIS 10.x SUN ULTRA II Server via Apache and SQL
- Designed a service-oriented application and integration platform around Google Earth API's and modules
- Copyright protected, trademarked, and initiated patents on the software with Offner & Anderson P.C.
- Implemented IT payment gateway and shopping cart solution using PHP predominantly Perl on SOLARIS 10.x

yU+Co Design & VFX Studio, Los Angeles, CA

2006 – 2009

Systems Architect & Consultant

- Rebuilt the complete technical workflow of this design and visual effects with a budget less than \$500,000
- Built the Vault and Tape I/O and backup procedures for the complete 2D and 3D production in the studio
- Procured heterogeneous networking of Windows, Linux and OSX render nodes in 64bit architecture
- Guaranteed migration across all computer platforms (OSX, Windows, various flavors of Linux 32bit to 64bit)
- Developed a database migration from Filemaker for Tape Barcodes, for contacts database in Marketing
- Daily interaction with the CEO, Head of Operations, and executive producers for planning and infrastructure
- Directed Networking and Storage on OSX Server storage while growing RAID infrastructure (8TB to 69TB)
- Configured OSX servers, email migration to Qmail, www migration to Apache2, FTP migration with MySQL
- Open Directory LDAP infrastructure by implementing XSAN and SAN technologies on Q-Logic Switches
- Setup Samba and Volume mount points as needed via nload and fstab files on heterogeneous OS
- Designed several 2D and 3D rendering pipelines around various render queue software for production
- Designed 3D and 2D visual effects pipelines for GIS and buildings and satellite and aerial geodata
- Installed and implemented Maya, 3Ds Max, Mental Ray Vray, Nuke, Shake, and After Effects
- Programmed a robust request trouble ticket system (RT) for the Help Desk staff that I manage
- Programmed PHP Nuke as the in-house company Wikipedia pages and documented the IT infrastructure
- Setup security monitoring and analysis software (Ethereal, Wire Shark, Earth, RT)
- Setup and maintained company source code repository using Subversion of all C#/.NET and shader code.
- Completed RAID migration for 2D editing and compositing as well as 3D rendering for OSX and Linux
- Migrated facility from OSX 10.4.2 to 10.5.x (Leopard) for XSAN and Xserver and all client machines
- Migrated 3D Flash web site to latest versions of Adobe Flash including content & action scripts
- Implemented robotic backup strategies and emergency recovery procedures for online critical technologies (i.e. www, ftp, email/qmail, https, client dailies, storage servers, DNS, LDAP, and other mission critical tasks)

SONY Playstation 3 - Sony Computer Entertainment of America, San Diego, CA

2004 – 2006

Distributed Rendering Architect

- Optimized the distributed rendering environment at SONY Computer Entertainment of America
- Emphasis on Perl scripting and RUSH implementation, Maya & Mental Ray performance tuning
- Implementation of a hardware / software architecture based on 64bit LINUX
- Successfully monitored load performance on render farm machines (Rushtop, XOSview, Ethereal)
- Monitored primary and secondary queue servers using RUSH distributing software and Temerity Pipeline
- Successfully upgraded, monitored and troubleshoot Linux Redhat 2.6.9-34 based farm machines
- Responded to all render related support calls and helped implement success strategies
- Worked with production at weekly meetings to forecast renders resources and prepare quarterly IT budgets
- Developed internal tools, administrative UI's, and advance existing scripts based on developer APIs & SDKs
- Extended a software distribution system to support next-gen environments (1080p/2K/4K)
- Administered Clients & Servers (cross-platform): NFS, FTP, Web, DNS, Kerberos, et cetera
- Built VMware triple boot Linux & OSX & Windows workstations and render servers and network integration
- Tested version releases, Installing, configuring, and distributing commercial 2D/3D software
- Integrated the optimization strategy w/ Netops, SysOps, and the IT support structure
- Integrated next-gen highest resolution 4K textures in a pre-rendered Linux environment
- Lead roll in optimizing the 400 CPU render farm which then led to several successful game titles
- Game titles include *KillZone*, *LAIR*, *ATV*, *SOCOM*, *MLB*, *WarHawk*, and *NBA*

TerraTracer, Incorporated, Ludwigsburg, Germany & Los Angeles

1999 – 2004

Geospatial Technology & Programming

- Developed international 3D terrain animation software for special events, feature film, television, and IMAX
- Developed atmospheric correction routines and models using MATLAB and then PERL for Remote Sensing
- Invented data processing algorithms like Data Fusion algorithms on the IHS Brovery and Pan Sharpening
- Developed processing algorithms in data preprocessing, de-hazing and atmospheric corrections
- Implemented mosaicing and color balancing and 3D spatial wavelet database design, & data compressions
- Visual Effects Supervisor of the Tour de France 3D Maps and stages for international television
- Geodata organized through IGN France (Paris). Television Broadcasts between 1999-present
- Developed TV geodata pipelines for OLN, ARD, TV1, AU1, & across Asia and Australia for sports coverage
- Visual Effects lead for IMAX films such as "Safari 3D" and "Brain Power" produced by nWave Digital Pictures
- Visual Effects Supervisor on the OLN and ABC "Mount Everest - Global Extremes" prime time reality show
- Produced television commercial & special events coverage of the Mercedes Benz C-Class TV Commercials
- Implemented and designed the multimedia lab including editing and compositing, rendering and animation

Arthur Andersen, Frankfurt, Germany

1990 – 1992

Geospatial Mapping & Business Analyst to U.S. Military

- FAST I & II training in Segovia, Spain and FAST III training in Bitburg, Germany and Luxemburg
- Developed models and supporting documentation for conducting spatial analysis of user defined project sites
- Performed fieldwork relevant to the collection of data for evaluation of pedestrian environment quality
- Coordinated a national geospatial data audit ensuring compliance with U.S. Environmental Task Force
- Supervised a team of technical staff to produce GIS (Geographic Information System) applications and databases
- Developed a hydraulic & hydrologic model using geospatial data to construct a high-resolution DMTs
- Preparation of land use & transportation plans, public consultation, on behalf of Local and Regional Authorities
- Preparation of development, local area, framework area, and master plans, on environmental policy and guidelines
- Reports successfully translated into English and reported between USA and Europe - "Blue Book Reporting"
- Mapping & analysis for state & federal development permits that involved environmental impact studies & analysis
- Created detailed topographic, lease, and ownership maps for multiple locations (environmental mapping)
- Analyzed spatial trends and experience with development and management of geodatabases
- Implemented blue book suggestions on environmental impact studies

ED Zueblin AG - Stuttgart, Germany

1987-1990

Geospatial Mapping & Business Analyst to U.S. Military

- Organized and prepared primary geospatial data for assimilation into DB and performed validation of datasets
- Implemented environmental studies using remote sensing and GIS technology (thermal and hyperspectral)
- Image acquisition, processing, and data analysis using the ESRI and ER Mapper software packages
- Created final deliverables for projects, including technical papers, posters, maps, and presentations
- Implemented a PC based database query system to monitor ongoing costs during construction
- Assisted CEO in US and Japanese soil burning, a ground water remediation, and a soil-vapor extraction facilities
- Assisted CEO on all environmental issues with US Military pull-out strategies from US bases and installations
- Authored statistical summary reports and summary tables of urban environmental data
- Extensive stereonet visualization experience for Geology work (such as geomorphology)

BUSINESS DEVELOPMENT IN FILMED ENTERTAINMENT

1999-2012

- ***Wildest Weather***: Processed and delivered geospatial data and technical support for National Geographic Entertainment's Wildest Weather in the Solar System which debuts in digital fulldome theaters and planetariums worldwide in 2011. This spectacular show will take you on a journey to witness weather extremes in our solar system.
- ***Tour De France***: Start-up venture as Terratracer and as CEO and head of business development, I worked with IGN France and several European data suppliers to organize the cartographic and geographic visualization of the Tour de France on international television, and drafted all content production contracts to closing. This effort won the Best In Space European award and was completely novel for its time (pre Google Earth).
- ***Mount Everest Global Extremes***: Produced and designed all visual effects for this prime time (8pm) ABC and OLN reality show sponsored by Toyota. 12 series in 2004/2005 included all geodata visualizations (Moab-UT, Mt Everest, et cetera). Led to several smaller commercial productions with Toyota and Daimler Chrysler.

- **Safari 3D:** Produced and directed by Ben Stassen of nWave Pictures and nWave Digital (Belgium), I designed the geodata workflow behind this IMAX theatre production. I negotiated all satellite and aerial data, organized contracts, vendors, and partners. This production led to a second IMAX film sponsored by the NSF.
- **Wired to Win - Brain Power:** Provided and directed the visual effects of this IMAX production directed by Bayley Silleck and produced by JoAnna Baldwin Mallory. Organized all contracts and satellite and aerial data around this large format film and worked closely together with nWave Digital for the graphics to the Tour de France.
- **Geodata in Entertainment:** I have been involved with several studios, network news agencies, large format feature film pipelines, and gaming productions, between 1999-2010 that are researching and have used satellite and remotely sensed data in their productions. I am specialized in this area of business development.

SELECTED HONORS & AWARDS

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| ▪ Field Spectroscopy training and field work with the Jet Propulsion Laboratory - NASA | 2001 - 2004 |
| ▪ PhD Stipend recipient at Yale University in Volcano Seismology | 1995 - 1997 |
| ▪ Fast I & Fast II at Arthur Andersen during the summer months between | 1990 - 1992 |
| ▪ TerraTracer Best In Space Achievement Award in Terrain Visualization | 1999 - 2000 |
| ▪ WavGen Software SIGGRAPH and Mental Ray Group Los Angeles | 2004 - 2010 |

GEOSPATIAL TRAINING

YALE UNIVERSITY Center for Earth Observation, New Haven, CT

- Graduate coursework in remote sensing & GIS using UNIX based ERMMapper & ESRI and laboratory courses
- Gained considerable insight and knowledge into the black body theory and the radiative transfer functions
- Used Spectral Libraries and Atmospheric correction and de-hazing algorithms on various satellite raster data

RENSELAER POLYTECHNIC INSTITUTE, Graduate School of Arts & Sciences - Troy, NY

- Graduate courses in Seismology and in Exploration Geophysics that led to PHD stipend at Yale University.
- Emphasis on all geophysical forms of exploration with emphasis on mathematics and theory and modeling
- Extensive use of Perl, c/c++ and F77/F90 using the SUN SPARC University Workshop Compiler v3.0 and Perl v5.008

CALIFORNIA INSTITUTE OF TECHNOLOGY, The Jet Propulsion Laboratory - Pasadena, CA

- Trained twice on the use of the FTIR102 Field Spectrometer build in New Hampshire by Designs & Prototypes Ltd.
- Deployed and conceived spectral libraries and reformatted them to a coherent database using Perl on Solaris/Apache.
- Trained with JPL software and the ASTER team and used VICAR, FESTER, HDF Viewer, and other in-house software

ESRI Seminars, Redlands CA

- Seminars to ArcIMS - ArcGIS 9
- Understanding Co-ordinate Systems and Map Projections
- Customizing ArcMap: Easy Ways to Extend the Interface Workshop

ERDAS Seminars, Liege Belgium and Washington DC

- Apollo Image Manager seminars August 26th - August 29th 2008
- Fundamentals of ERDAS Imagine Part I & II between June 11th - June 15th 2007
- ERDAS and Apollo essentials SDI - Geospatial Data over the Web (ERDAS APOLLO Server)

ARTHUR ANDERSEN, Segovia, Spain and Bitburg, Germany

- Invitation to attend environmental auditing - FAST I as a co-operative student via Northeastern University
- Invitation to attend environmental auditing through - FAST II as a co-operative student via Northeastern University

PROFESSIONAL SOCIETIES

- | | |
|--|------------|
| ▪ AGU - American Geophysical Union | since 1991 |
| ▪ ESC - European Seismological Committee | since 1990 |
| ▪ AAG - Association of American Geographers | since 1995 |
| ▪ RSPS - Remote Sensing and Photogrammetry Society | since 1997 |
| ▪ AGI - Association for Geographic Information (AGI) | since 1997 |
| ▪ IUGG - International Union of Geodesy & Geophysics | since 1990 |
| ▪ SEG - Society of Exploration Geophysicists | since 1990 |
| ▪ IAVCEI - International Association of Volcanology & Chemistry of the Earths Interior | since 1988 |
| ▪ SIGGRAPH - Association of Computing Machinery - ACM Siggraph | since 2002 |
| ▪ LAMRUG - Los Angeles Mental Ray User Group | since 2002 |
| ▪ ANNALI GEOFISICA - Istituto Nazionale di Geofisica (ING) - Annals of Geophysics | since 1990 |
| ▪ GEOFISICA & VULCANOLOGICA - Istituto Nazionale di Geofisica e Vulcanologia | since 1990 |